



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4152
 UNIQUE ID NUMBER: 1PW044
 COMBUSTOR:
 ENGINE TYPE: TF

BYPASS RATIO: 4.9
 PRESSURE RATIO (π_{co}): 26.9
 RATED THRUST (F_{oo}) (kN): 231.3

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	2.0	20.9	54.1	16.3
AS % OF ORIGINAL LIMIT	10.2	17.7	57.7	86.9
AS % OF CAEP/2 LIMIT (NO _x)			72.1	
AS % OF CAEP/4 LIMIT (NO _x)			87.3	
AS % OF CAEP/6 LIMIT (NO _x)			99.2	
AS % OF CAEP/8 LIMIT (NO _x)			118.2	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.177	0.13	0.12	26.90	12.7
CLIMB OUT	85	2.2	1.785	0.16	0.17	22.70	
APPROACH	30	4.0	0.593	0.15	1.09	11.10	
IDLE	7	26.0	0.177	0.74	12.76	4.90	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			745	275	3729	10741	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				1.3	17.0	46.7	12.7
SIGMA (D _p /F _{oo} in g/kN, or SN)							
RANGE (D _p /F _{oo} in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.6
TEMPERATURE (K)	290
ABS HUMIDITY (kg/kg)	0.00053

FUEL

SPEC	Jet A
H/C	1.87
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: P7 Stand, P&W, Middletown, CT
 TEST DATES: 14/05/1986-14/05/1986

REMARKS

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)